

## Beetles of superfamily Hydrophiloidea (Coleoptera: Helophoridae, Hydrochidae, Spercheidae, Hydrophilidae) of the Crimean peninsula

### Жесткокрылые надсемейства Hydrophiloidea (Coleoptera: Helophoridae, Hydrochidae, Spercheidae, Hydrophilidae) Крымского полуострова

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Hydrophiloidea, аннотированный список, Украина, Крымский полуостров.

**ABSTRACT:** At present the fauna of the superfamilies Hydrophiloidea of the Crimea includes 73 species (Helophoridae—13, Hydrochidae—2, Spercheidae—1, Hydrophilidae—57). *Enochrus (Methydrus) nigritus* Sharp and *Helochares lividus* (Foster) are reported for Ukraine and the Crimea for the first time. Eighteen species: *Helophorus (Helophorus) liguricus* Angus, *Helophorus (Rhopalhelophorus) brevipalpis brevipalpis* Bedel, *Berosus (Enoplurus) bispina* Reiche & Saulcy, *Berosus (Enoplurus) spinosus* (Steven), *Cercyon (Cercyon) depressus* Stephens, *Cercyon (Cercyon) marinus* Thomson, *Cercyon (Cercyon) pygmaeus* (Illiger), *Cryptopleurum minutum* (Fabricius), *Cryptopleurum subtile* Sharp, *Enochrus (Enochrus) melanocephalus* (Olivier), *Enochrus (Lumetus) fuscipennis* Thomson, *Enochrus (Lumetus) hamifer* (Ganglbauer), *Enochrus (Lumetus) quadripunctatus* (Herbst), *Hydrobius fuscipes* (Linnaeus), *Laccobius (Dimorpholaccobius) bipunctatus* (Fabricius), *Laccobius (Dimorpholaccobius) syriacus* Guillebeau, *Laccobius (Laccobius) minutus* (Linnaeus), *Laccobius (Microlaccobius) alternus* Motschulsky, *Sphaeridium lunatum* Fabricius являются новыми для фауны Крыма. *Berosus guttalis* Rey и *Laccobius striatulus* (Fabricius) исключаются из состава фауны, так как их внесение в её состав связано с ошибкой определения.

*nus* Thomson, *Cercyon (Cercyon) pygmaeus* (Illiger), *Cryptopleurum minutum* (Fabricius), *Cryptopleurum subtile* Sharp, *Enochrus (Enochrus) melanocephalus* (Olivier), *Enochrus (Lumetus) fuscipennis* Thomson, *Enochrus (Lumetus) hamifer* (Ganglbauer), *Enochrus (Lumetus) quadripunctatus* (Herbst), *Hydrobius fuscipes* (Linnaeus), *Laccobius (Dimorpholaccobius) bipunctatus* (Fabricius), *Laccobius (Dimorpholaccobius) syriacus* Guillebeau, *Laccobius (Laccobius) minutus* (Linnaeus), *Laccobius (Microlaccobius) alternus* Motschulsky, *Sphaeridium lunatum* Fabricius являются новыми для фауны Крыма. *Berosus guttalis* Rey и *Laccobius striatulus* (Fabricius) исключаются из состава фауны, так как их внесение в её состав связано с ошибкой определения.

#### Introduction

The Crimean peninsula is situated in the south of Ukraine (Fig. 1). Its area is 25 500 km<sup>2</sup>. The Crimea is connected with the continent by the Perekop isthmus. In the west, south and south-east the peninsula is washed by the Black sea, in the north-east — by the sea of Azov. The relief of the Crimea is varied due to which the peninsula is divided into Steppe and Mountainous Crimea. The northern and central parts of the peninsula are planes, that turn into hills in the west and east. The eastern edge extremity of the Crimea — Kerch peninsula, which is about 3 000 km<sup>2</sup>, also has a flat relief and belongs to the steppe zone of the Crimea. In the southern part the Crimea mountains are situated. They consist of 3 parallel ranges with gentle slopes in the north and steep slopes in the south. In the flat steppe part of the Crimea the climate is moderately continental. In Mountainous Crimea the climate is Mediterranean.

The study of Hydrophiloidea fauna of the Crimea began at the end of the XIXth century. In paper of K.E.

**РЕЗЮМЕ:** Фауна надсемейства Hydrophiloidea Крыма включает 73 вида (Helophoridae—13, Hydrochidae—2, Spercheidae—1, Hydrophilidae—57). *Enochrus (Methydrus) nigritus* Sharp и *Helochares lividus* (Foster) впервые приводятся для фауны Украины и Крыма. Восемнадцать видов: *Helophorus (Helophorus) liguricus* Angus, *Helophorus (Rhopalhelophorus) brevipalpis brevipalpis* Bedel, *Berosus (Enoplurus) bispina* Reiche & Saulcy, *Berosus (Enoplurus) spinosus* (Steven), *Cercyon (Cercyon) depressus* Stephens, *Cercyon (Cercyon) mari-*



Fig. 1. Map of the Crimea.  
Рис. 1. Карта Крыма.

Lindeman 2 species from the Crimea are mentioned [Lindeman, 1871]. The most significant faunistic review is presented in paper of F.A. Zaitszev devoted to water beetles of Taman' and the Crimea which includes data on 21 species of Hydrophilidae and 6 species of Helophoridae of the Crimea [Zaytsev, 1908]. To broaden the idea of the hydrophiloids fauna structure of the peninsula became possible due to later papers [Hebauer & Ryndevich, 2005; Kirejtshuk & Shatrovskiy, 2001a; 2001b; Ryndevich, 2000, 2001a, 2001b, 2003a, 2003b, 2004a, 2004b; Shatrovskiy, 1984, 1986, 1993a, 1993b; Smetana, 1980].

## Material and methods

As the material basis there was used our own collection gathered in expeditions to the Crimea carried in 1991, 1999, 2000, 2001, 2005 and 2006 as well as the collections of Zoological Institute of Russian Academy of Sciences, St.-Petersburg, Russia (ZISP); of Dr. I.A. Solodovnikov, Minsk, Belarus (cIS); of Dr. A.A. Prokin, Voronezh, Russia (cAP); of Dr. A.O. Bienkowski, Moscow, Russia (cAB); type material preserved in Museum of Moscow State University, Moscow, Russia (ZMMU); Zoological Museum of Belarus State University, Minsk, Belarus (ZMBU); The Natural History Museum, London, United Kingdom (NHML); Naturhistorisches Museum Wien, Vienna, Austria (NHMLW).

We studied the collections of V. Pliginskiy, V.Y. Yakovleva and A.N. Kirichenko which are situated in ZISP.

## Results and discussion

This paper is the most complete summary that embraces the existing data on the Hydrophiloidea of the Crimea species structure.

At present the fauna of the superfamily of Hydrophiloidea of the Crimea includes 73 species (Helophoridae — 13, Hydrochidae — 2, Spercheidae — 1, Hydrophilidae — 57). *Enochrus (Methydrus) nigritus* Sharp and *Helochares lividus* (Foster) are reported for Ukraine and the Crimea for the first time. Nineteen species are reported for the Crimea for the first time. *Berosus guttalalis* Rey and *Laccobius striatus* (Fabricius) are struck off from the fauna of the Crimea, because they enter the list by mistake in identification.

The Hydrophiloidea fauna of Steppe Crimea differs from the same fauna in Mountainous Crimea. According to literary data and the results of our own research from Steppe Crimea (Kerch peninsula included) there are known 31 species of Hydrophiloidea (Helophoridae — 4, Spercheidae — 1, Hydrophilidae — 26). The fauna of Mountainous Crimea is much richer and is presented by 59 species (Helophoridae — 10, Hydrochidae — 2, Hydrophilidae — 47), which can be explained by significant variety of natural conditions in this region (the existence of steppe and afforested areas, high-altitude zones in mountainous ecosystems, a wider range of water bodies' types). This region of the peninsula is inhabited by typically mountainous species such as *Helophorus montenegrinus* Kuwert, *H. syriacus* Kuwert, *Hydrochus flavigennnis* Küsner, *Ana-*

*caena taurica* Ryndevich, *Hydrochara semenovi* (Zaytsev), *Laccobius alternus* Motschulsky, *L. gracilis gracilis* Motschulsky, *L. obscuratus aegaeus* Gentili and *L. simulatrix* Orchymont. Parallel with this there are species characteristic mainly of the forest zone: *Cercyon bifenestratus* Küster, *C. convexiusculus* Stephens, *Hydrobius fuscipes* (Linnaeus) and *Laccobius minutus* (Linnaeus) or the steppe: e.g., *Berosus spinosus* (Steven) and *Enochrus bicolor* (Fabricius).

The annotated check-list of Hydrophiloidea of the Crimea is given below. New species for the Crimea are marked with the star sign (\*), new both for Ukraine and the Crimea — with two stars (\*\*).

#### Annotated check-list of species of Hydrophiloidea of Crimea

##### Family Helophoridae

1. *Helophorus (Embleurus) nubilus* Fabricius, 1777: [Kirejtshuk & Shatrovskiy, 2001a].

2. *Helophorus (Eutrichelophorus) micans* Faldermann, 1835: [Zaytsev, 1908; Kirejtshuk & Shatrovskiy, 2001a]. Evpatoria, Tavrich. gub., 20.VIII.1906, V.E. Yakovlev, k. V. Yakovleva [in Russian, 20 spec.; Karatebel, (Sivash), Krim, 14.V.07, Kiritschenko, 1 spec. (all in ZISP); the Crimea, Molochnoe, coast of lake Solenoe, under stone, leg. Orlov I., 1 spec. (cSR)].

3. *Helophorus (Helophorus) aequalis* Thomson, 1868: [Kirejtshuk & Shatrovskiy, 2001a].

4. *Helophorus (Helophorus) aquaticus* (Linnaeus, 1758): [Zaytsev, 1908]. Krym, s. Pereval'noe, plato Chetyrdag, h=1000 m, 8.07.1997, leg. I.A. Solodovnikov [in Russian], 2 spec. (cIS).

5. \**Helophorus (Helophorus) liguricus* Angus, 1970. Sebastopol, Krim, 15.2.06, W. Pliginski, 2 spec.; Sebastopol, Krim, Inkerman, koshenie, 25.4.10 [in Russian, V. Pliginskiy, 1 spec.; same data, 2.15.10, 1 spec.; same data, 20.10.10, 1 spec.]; Tauria, Bia-Sala, 14.6.11. V. Pliginskiy, 1 spec. (all in ZISP).

6. *Helophorus (Helophorus) syriacus* Kuwert, 1885: [Kirejtshuk & Shatrovskiy, 2001a].

7. \**Helophorus (Rhopalhelophorus) brevipalpis brevipalpis* Bedel, 1881. The Crimea, near Yalta, stream, 13.07.1991, leg. S.K. Ryndevich, 2 spec.; The Crimea, near Krasnokamenka, pool, S = 40 m<sup>2</sup>, deep — 0.3 m, 6.07.2000, leg. S.K. Ryndevich, 5 spec.; the Ukraine, the Crimea, Gurzuf, pond Lapot, 0.4 m deep, 3.07.2000, leg. Ryndevich S.K., 1 spec.; same data, 5.07.2000, 2 spec.; same data, 5.07.2000, 2 spec.; same data, stream, 11.07.2000, 1 spec.; the Crimea, near Gurzuf, "Artek", streams, 3.07.2000, leg. Ryndevich S.K., 8 spec.; same data, 11.07.2001, 1 spec.; the Crimea, near Gurzuf, river Avunda, 14.07.2001, leg. Ryndevich S.K., 3 spec.; the Crimea, Gurzufskaya Yayla, near Partizanskoe, pool, S = 40 m<sup>2</sup>, deep — 0.05–0.2 m, 12.07.2000, leg. S.K. Ryndevich, 2 spec. (all in cSR); Krym, Karadag, na svet ULF, 7–8.06.1996, leg. Solodovnikov I.A. [in Russian], 41 spec. (cIS, cSR); Krym, Arbatsskaya str. o. Okhotnik, 21.06.1986, 1 spec.; 11 km Z. g. Kerch', solonchaki, 10.06.1996, leg. Solodovnikov I.A. [in Russian], 1 spec. (all in cIS).

8. *Helophorus (Rhopalhelophorus) flavipes* Fabricius, 1792: [as *Helophorus viridicollis* Stephens: Zaytsev, 1908]. Saki, Krim, 25.7.09, W. Pliginskiy, 1 spec. (ZISP); The Ukraine, the Crimea, Gurzuf, pond Lapot, 0.4 m deep, 12.07.2000, leg. Ryndevich S.K., 2 spec. (cSR).

9. *Helophorus (Rhopalhelophorus) granularis* (Linnaeus, 1761): [Zaytsev, 1908]. The Crimea, near Simferopol, pool, 12.07.1991, leg. S.K. Ryndevich, 1 spec. (cSR).

10. *Helophorus (Rhopalhelophorus) griseus* Herbst, 1793: [as *Helophorus griseus* Herbst and as *Helophorus affinis* Marsham: Zaytsev, 1908]. The Crimea, near Krasnokamenka, pool, S = 40 m<sup>2</sup>, deep — 0.3 m, 6.07.2000, leg. S.K. Ryndevich, 26 spec. (cSR).

11. *Helophorus (Rhopalhelophorus) illustris* Sharp, 1916: [Kirejtshuk & Shatrovskiy, 2001a].

12. *Helophorus (Rhopalhelophorus) montenegrinus* Kuwert, 1885. [Ryndevich, 2001a]. The Ukraine, the Crimea, near Gurzuf, pond Lapot, 8.07.1999, leg. Ryndevich S.K., 1 spec. (cSR).

13. *Helophorus (Rhopalhelophorus) obscurus* Mulsant, 1844: [Kirejtshuk & Shatrovskiy, 2001a]. The Crimea, near Yalta, pools, 15.07.1991, leg. S.K. Ryndevich, 4 spec.; the Crimea, near Krasnokamenka, pool, S = 40 m<sup>2</sup>, deep — 0.3 m, 6.07.2000, leg. S.K. Ryndevich, 2 spec.; the Crimea, Gurzuf, pond Lapot, 5.07.2000, leg. Ryndevich S.K., 4 spec.; the Crimea, near Gurzuf, streams, 3.07.2000, leg. Ryndevich S.K., 3 spec.; same data, stream, 18.07.2000, 1 spec.; the Crimea, Gurzufskaya Yayla, near Partizanskoe, pool, S = 40 m<sup>2</sup>, deep — 0.05–0.2 m, 12.07.2000, leg. S.K. Ryndevich, 2 spec.; the Crimea, near Partizanskoe, mount. Ay-Iliya-Syrym, pools on place of stream, 12.07.2001, leg. Ryndevich S.K., 7 spec. (all in cSR); Krim, 4.VI.07, Kiritschenko, 2 spec.; Schumi, Krim, 23.VI.07, Kiritschenko, 1 spec.; Sebastopol, Krim, Inkerman, koshenie, 18.5.08, W. Pliginskiy [in Russian], 1 spec.; Tauria, Sudak, 13.7.11, V. Pliginskiy, 1 spec. (all in ZISP).

##### Family Hydrochidae

14. *Hydrochus flavipennis* Küsyer, 1852: [Shatrovskiy, 1993b; Ryndevich, 2003a]. Krim, Angarskiy perev., Yaltinskii u. Luzha u shosse, 25.6.07, W. Pliginskiy [in Russian], 3 spec. (ZISP).

15. *Hydrochus kirgisicus* Motschulsky, 1860: [Shatrovskiy, 1993b]. Krim, Angarskiy perev., Yaltinskii u. Luzha u shosse, 1.VII.07, W. Pliginskiy [in Russian], 1 spec. (ZISP).

##### Family Spercheidae

16. *Spercheus emarginatus* (Schaller, 1783): [Lindeman, 1871; Zaytsev, 1908].

##### Family Hydrophilidae

17. *Anacaena limbata* (Fabricius, 1792): [Zaytsev, 1908]. Krym, okr. g. Yalta, Kzyl-Kaya, yu. Sklon, prud Babu-karyto, 8.05.2006, leg. Prokin, [in Russian], 3 spec.; Krym, okr. g. Yalta, Kzyl-Kaya, yu. Sklon, ruchey nizhe pruda Babu-karyto, 12.05.2006, leg. Prokin, [in Russian], 2 spec. (all in cAP).

18. *Anacaena lutescens* (Stephens, 1829): [Shatrovskiy, 1993a; Ryndevich, 2000; 2003b]. Kizil. tal. [in Russian], Krim, 26.07.1908, leg. W. Pliginskiy, 1 spec.; Sychat. dag., Krim, 18.06.1907, Kiritshenko, 1 spec. (all in ZISP); The Crimea, Gurzufskaya Yayla, near Partizanskoe, pool, 12.7.2000, leg. Ryndevich S.K., 5 spec. (cSR).

19. *Anacaena taurica* Ryndevich, 2000: [Ryndevich, 2003b; Short & Hebauer, 2006]. TYPE MATERIAL. Holotype: the Ukraine, the Crimea, near Gurzuf, pond Lapot, 0.4 m deep, 12.07.1999, leg. Ryndevich S.K. (ZISP). Paratypes: same date as holotype, 20 spec. (ZISP, cSR, ZMMU, ZMBU, NHML, NHMLW); Krim, Yaltinskii u., Taushan-Bazar, 28.6.07, W. Pliginskiy [in Russian], 1 spec.; Krim, Miskhor, VI.06, W. Pliginskiy [in Russian], 1 spec.; Krim, Angarskiy perev., Yaltinskii u. Luzha u shosse, 22.06.07, W. Pliginskiy [in Russian], 9 spec.; Krim, Angarskiy perev., Yaltinskii u. Luzha u shosse, 27.06.07, W. Pliginskiy [in Russian], 3 spec. (all in ZISP); Krim, Angarskiy perev., Yaltinskii u. Luzha u shosse, 25.6.07, W. Pliginskiy [in Russian], 32 spec. (ZISP,

- cSR); the Ukraine, the Crimea, Gurzuf, creek of mountain stream, 14.07.1999, leg. Ryndevich S.K., 1 spec. (cSR). OTHER MATERIAL. The Ukraine, the Crimea, near Gurzuf, pond, 5.07.2000, leg. Ryndevich S.K., 2 spec.; same data, 11.07.2000, 5 spec.; same data, streams, 3–5.07.2000, 11 spec.; Gurzufskaya Yayla, near Partizanskoe, pools, 12.7.2000, leg. Ryndevich S.K., 17 spec.; the Crimea, near Partizanskoe, mount. Ay-Ilya-Syrym, pools on place of stream, 12.07.2001, leg. Ryndevich S.K., 5 spec.; the Ukraine, the Crimea, Krasnokamenka, creek of stream, deep — 0.1 m, 5.08.2006, leg. S.K. Ryndevich, 4 spec. (all in cSR).
20. *Berosus (Berosus) signaticollis* (Charpentier, 1825): [Zaytsev, 1908].
21. \**Berosus (Enoplurus) bispina* Reiche & Saulcy, 1856. Sebastopol, Tauria, 17.6.12, V. Pliginski, 1 spec. (ZISP).
22. \**Berosus (Enoplurus) spinosus* (Steven, 1808). The Crimea, near Simferopol', 12.07.1991, leg. S.K. Ryndevich, 2 spec. (cSR); Simferopol', na svet, 22.VI.07, k. Kirichenko [in Russian], 1 spec.; Krym, Evpatoria, 8.VI.07, O.G. and K. Khristoforovy [in Russian], 3 spec.; Evpatoria, Tavrich. gub., V.E. Yakovlev, 7.VIII.1901, k. V. Yakovleva [in Russian], 2 spec.; same data, 9.VIII.1903, 3 spec.; same data, 15.VII.1904, 11 spec.; same data, 4.IX.1904, 1 spec.; Tauria, Selo Saki, Evpatoria, 30.7.12, W. Pliginski [in Russian], 1 spec.; same data, 10.8.12, 1 spec.; same data, 16.VIII.12, 1 spec.; same data, 19.7.13, 8 spec.; same data, 23.7.13, 4 spec.; same data, 27.7.13, 8 spec.; Krim, Saki, 21.7.09, W. Pliginski, 1 spec.; same data, 15.8.10, 1 spec.; same data, 8.VIII.13, 1 spec.; Krim, Kerch, 25.IV.01, Kiritschenko, 1 spec.; Sebastopol, Tauria, Krasnaya bukhta, 27.6.12, V. Pliginski, 2 spec. (all in ZISP).
- REMARK. References to findings of *Berosus (Enoplurus) guttalis* Rey [Zaytsev, 1908] concern *Berosus (Enoplurus) spinosus*.
23. *Cercyon (Cercyon) bifrenestratus* Küster, 1851: [Ryndevich, 2003a]. The Ukraine, the Crimea, near Partizanskoe, coast of pond, 12.07.2001, leg. Ryndevich S.K., 1 spec. (cSR).
24. *Cercyon (Cercyon) convexiusculus* Stephens, 1829: [Ryndevich, 2003a]. The Ukraine, the Crimea, near Partizanskoe, coast of pond, 12.07.2001, leg. Ryndevich S.K., 1 spec. (cSR).
25. \**Cercyon (Cercyon) depressus* Stephens, 1829. The Ukraine, the Crimea, near Kerch, v. Osovino, 7.08.1998, leg. Lukashuk A.O., 1 spec. (cSR); Nikit. Sad, litopal', 22.9.66, [in Russian] 4 spec. (ZISP).
26. *Cercyon (Cercyon) haemorrhoidalis* (Fabricius, 1775): [Lindeman, 1871; Zaytsev, 1908; Ryndevich, 2003a]. Tauria, k. G. Siversa, 10 spec.; Krym, k. E. Fishera, 8 spec.; Tauria, k. Yakovleva, 1 spec.; Simferopol, 26.10.99, A. Bozhenov, [in Russian] 7 spec.; Alushta, 7 spec.; Alushta, Krim, 27.IV.07, Kirichenko, 3 spec.; Alushta, Sheverev, koll. Semenova-Tyan, [in Russian] 6 spec.; Ischatirolag, Krim, 28.IV.07, Kirichenko, 1 spec.; Krym, Crimea, Sevast., koll. Zaytzeva, 2 ex.; Sevastopol, Krim, khut. Delagarda, 1.5.11, Pliginski, 11 ex.; Sebastopol, Krim, Miken'zevy gory [in Russian], 6.11.11, Pliginski, 11 ex.; Sebastopol, 22.6.06, Pliginski, 9 ex.; Krymskaya obl., Chetyrdag, s. Krasnoles'e, sb. Shatrovskiy [in Russian, 22.VI.1981, 13 spec. (all in ZISP); Krym, 14 km SV Alushta, General'skoe, koroviy navoz, 18.05.1994, leg. M. Orlova, A. Benkovskiy, [in Russian] 1 spec. (cAB).
27. *Cercyon (Cercyon) lateralis* (Marsham, 1802): [Ryndevich, 2003a; 2004a; 2004b]. The Ukraine, the Crimea, near Gurzuf, horse dung, 5.07.2000, leg. Ryndevich S.K., 2 specimens; same date, 10.07.2000, 15 specimens; Gurzufskaya Yayla, near Partizanskoe, cow dung, 12.07.2000, leg. Ryndevich S.K., 1 specimen; mount. Ay-Ilya-Syrym, horse dung, 12.07.2001, leg. Ryndevich S.K., 12 specimens (all in cSR).
28. \**Cercyon (Cercyon) marinus* Thomson, 1853. Krym, Karadag, na svet ULF, 7–8.06.1996, leg. Solodovnikov I.A. [in Russian], 5 spec. (cIS).
29. *Cercyon (Cercyon) obsoletus* (Gyllenhal, 1808): [Zaytsev, 1908]. Tauria, k. G. Siversa, 1 spec.; Sebastopol, Krim, 22.7.06., W. Pliginski, 1 spec.; Krymskaya obl., plato Chetyrdag, 1500 m., sb. Shatrovskiy, 21.VI.1981 [in Russian], 1 spec. (all in ZISP).
30. \**Cercyon (Cercyon) pygmaeus* (Illiger, 1801). Tauria, koll Yakovleva, 1 spec.; Laspi, yu. b. Kryma, 9.V.907, Yatzenovskiy, [in Russian] 1 spec.; Alushta, Krim, 27.IV.07, Kirichenko, 3 spec.; Sebastopol, Krim, Miken'zevy gory [in Russian], 21.3.11, Pliginski, 1 ex.; Sebastopol, Tauria, 1.V.11, Pliginski, 4 ex.; Sebastopol, Krim, khut. Delagarda [in Russian], 7.5.11, Pliginski, 1 ex.; Krim, Yaltinskiy u., Taushan-Bazar, v gribakh [in Russian], 14.7.07, Pliginski, 1 ex.; Krymskaya obl., Chetyrdag, s. Krasnopol'e, sb. Shatrovskiy, 22.VI.1981, 13 spec.; Krymskaya obl., Chetyrdag, s. Krasnoles'e, sb. Shatrovskiy [in Russian], 19.VI.1981, 1 spec. (all in ZISP); The Ukraine, the Crimea, near Gurzuf, mount. Ay-Ilya-Syrym, horse dung, 11.07.2000, leg. S.K. Ryndevich, 6 spec. (cSR).
31. *Cercyon (Cercyon) quisquilius* (Linnaeus, 1761): [Zaytsev, 1908; Ryndevich, 2004b]. The Crimea, near Simeiz, Ay-Petri, horse dung, 19.07.1991, leg. S.K. Ryndevich, 6 spec. (cSR); Crimea, Karadag, UVL, 7–8.06.1996, leg. I.A. Solodovnikov, 1 spec. (cIS).
32. *Cercyon (Cercyon) terminatus* (Marsham, 1802): [Hebauer & Ryndevich, 2005]. The Ukraine, the Crimea, near Gurzuf, mount. Ay-Ilya-Syrym, horse dung, 11.07.2000, leg. S.K. Ryndevich, 1 spec. (cSR).
33. *Cercyon (Dicyrtocercyon) ustulatus* (Preyssler, 1790): [Hebauer & Ryndevich, 2005]. The Crimea, Simferopol', near river Salgir, under stone, 16.4.1996, leg. A. Benkovskiy, 1 spec. (cAB).
34. *Cercyon (Paracercyon) analis* (Paykull, 1798): [Ryndevich, 2003a]. Tauria, koll Yakovleva, 1 spec. (ZISP); The Ukraine, the Crimea, Gurzuf, in decomposed plants, 4.08.2005, leg. Tsinkevich V.A., 1 spec. (cSR).
35. *Cercyon (Paracycreon) laminatus* Sharp, 1873: [Ryndevich, 2003]. The Ukraine, the Crimea, near Krasnokamenka, horse dung, 5.08.2006, leg. S.K. Ryndevich, 1 spec. (cSR).
36. *Coelostoma orbiculare* (Fabricius, 1775): [Zaytsev, 1908]. Evpatoria, Tavrich. gub., V.E. Yakovlev, k. V. Yakovleva [in Russian], 1 spec.; same data, 28.VI.905, 1 spec. (all in ZISP); the Ukraine, the Crimea, Gurzuf, pond Lapot', 0.4 m deep, 5.07.2000, leg. Ryndevich S.K. 6 spec; same data, leg Tsinkevich V.A. (all in cSR).
37. *Cryptopleurum crenatum* (Kugelann, 1794): [Hebauer & Ryndevich, 2005]. The Ukraine, the Crimea, near Gurzuf, mount. Ay-Ilya-Syrym, horse dung, 11.07.2000, leg. S.K. Ryndevich, 1 spec. (cSR); Krim, Yaltinskiy u., Taushan-Bazar, 2.VII.07, W. Pliginskiy [in Russian], 12 spec. (ZISP).
38. \**Cryptopleurum minutum* (Fabricius, 1775). The Ukraine, the Crimea, near Gurzuf, mount. Ay-Ilya-Syrym, horse dung, 11.07.2000, leg. S.K. Ryndevich, 1 spec. (cSR).
39. \**Cryptopleurum subtile* Sharp, 1844. The Ukraine, the Crimea, near Gurzuf, mount. Ay-Ilya-Syrym, horse dung, 11.07.2000, leg. S.K. Ryndevich, 1 spec. (cSR).
40. *Cymbiodyta marginella* (Fabricius, 1792): [Zaytsev, 1908]. The Ukraine, the Crimea, near Kerch, v. Osovino, the Sea of Azov, under decomposing seaweed, 7.08.1998, leg. Lukashuk A.O., 1 spec. (cSR).
41. \**Enochrus (Enochrus) melanocephalus* (Olivier, 1792). Sebastopol, Krim, 2.8.02., W. Pliginski, 8 spec. (ZISP).
42. *Enochrus (Lumetus) bicolor* (Fabricius, 1792): [Zaytsev, 1908]. Krim, Tauria, 24.4.06, V. Pliginski, 3 spec.; same

data, 4.4.11, 4 spec.; same data, 29.6.11, 5 spec.; Krym, Evpatoria, 5.VI.07, O.G. and K. Khristoforovy [in Russian], 3 spec.; Saki, Krim, 25.7.09, W. Pliginski, 1 spec.; same data, 18.8.10, 1 spec.; Krim, Yaltinsk. u., Taushan-Bazar, W. Pliginskiy, 3 spec.; Sebastopol, Krim, Inkerman, 9.5.12, V. Pliginski, 1 spec.; Sebastopol, Krim, 2.8.02, V. Pliginski, 1 spec.; St. Bel'bek, Sevastop. zh.d., Krym, 14.VII.97, N. Kuznetsov [in Russian], 1 spec. (all in ZISP); Crimea, Karadag, UVL, 7–8.06.1996, leg. I.A. Solodovnikov, 1 spec. (cIS).

43. \**Enochrus (Lumetus) fuscipennis* Thomson, 1884. Simferopol, 906, Kirichenko [in Russian], 1 spec.; Krim, Simferopol, 27.VI.07, Kiritschenko, 2 spec.; Simferopol, na svet, Kirichenko, 1 spec.; 21.6.7, Krim, Simferopol, W. Pliginski, 2 spec.; Krim, Yaltinsk. u., Taushan-Bazar, W. Pliginskiy, 1 spec.; Al'ma, 13.V.1907, [in Russian], 1 spec. (all in ZISP); Crimea, Karadag, UVL, 7–8.06.1996, leg. I.A. Solodovnikov, 5 spec. (cIS, cSR).

44. \**Enochrus (Lumetus) hamifer* (Ganglbauer, 1901). Saki, Evpatoria, Krim, 28.6.06, W. Pliginski [in Russian]. 1 spec. (ZISP).

45. \**Enochrus (Lumetus) quadripunctatus* (Herbst, 1797). Simferopol', 8.VI.07, O.G. and K. Khristoforovy [in Russian], 1 spec.; Krim, Simferopol, 27.VI.07, Kiritschenko, 1 spec.; Simferopol, na svet, Kirichenko, 1 spec.; Evpatoria, Tavrich. gub., V.E. Yakovlev, k. V. Yakovleva [in Russian], 1 spec.; Tauria, Selo Saki, Evpatoria, 24.7.12, [in Russian], 1 spec.; Karatebel, Krim, 17.V.07, Kiritschenko, 1 spec.; Krim, Sebastopol, 2.7.02, W. Pliginski, 2 spec.; same data, 10.6.08, 2 spec.; Kersch, Krim, 23.IV.07, Kiritschenko, 1 spec. (al in ZISP); Crimea, Karadag, UVL, 7–8.06.1996, leg. I.A. Solodovnikov, 3 spec. (cIS).

46. *Enochrus (Lumetus) testaceus* (Fabricius, 1801): [Zaytsev, 1908]. Saki, Krim, 14.7.09, W. Pliginski, 1 spec.; Kersch, Krim, 21.IV.07, Kiritschenko, 2 spec.; same data, 27.IV.07, 2 spec.; Krim, Kertch, 15.V.01, 1 spec. (all in ZISP).

47. *Enochrus (Methydrus) affinis* (Thunberg, 1794): [Ryndovich, 2003a], [as *Philydrus minutus* Fabricius: Zaytsev, 1908].

REMARK. F.A. Zaytsev records this species for Sevastopol'. We did not manage to find specimens from this locality in ZISP's collection. All other specimens *Enochrus affinis* from F.A. Zaytsev's collection and V. Pliginskiy's material from Mountainous Crimea are in reality *Enochrus nigritus* Sharp.

48. *Enochrus (Methydrus) coarctatus* (Gredler, 1863): [Zaytsev, 1908]. Saki, Krim, 14.7.09, Kiritshenko, 4 spec. (ZISP).

49. \*\**Enochrus (Methydrus) nigritus* Sharp, 1872. Krim, Angarskiy perev., Yaltinskiy u. Luzha u shosse, 10.06.07, W. Pliginskiy [in Russian], 1 spec.; same data, 21.6.07, 1 spec.; same data, 25.6.07, 9 spec.; Krim, Yaltinskiy u., Taushan-Bazar, 7.Vi.07, W. Pliginskiy [in Russian], 1 spec. (all in ZISP).

50. \*\**Helochares lividus* (Foster, 1771). The Crimea, near Krasnokamenka, pond, 5.08.2006, leg. S.K. Ryndovich, 3 spec. (cSR).

51. *Helochares obscurus* (Müller, 1776): [as *Helochares griseus* Fabricius: Zaytsev, 1908]. Crimea, Karadag, UVL, 7–8.06.1996, leg. I.A. Solodovnikov, 1 spec.; Krym, s. Pereval'noe, plato Chetyrdag, h=1000 m, ruchey, 8.07.1997, leg. I. A. Solodovnikov [in Russian], 2 spec. (all in cIS); Crimea, Evpatoriya, coast of lake Sasyk, 1.07.1997, leg. I.A. Solodovnikov, 2 spec.; The Ukraine, the Crimea, near Gurzuf, pond Lapot, 5.07.2000, leg. Ryndovich S.K., 1 spec.; The Crimea, near Krasnokamenka, pool, S = 40 m<sup>2</sup>, deep — 0.3 m, 6.07.2000, leg. S.K. Ryndovich, 1 spec. (all in cSR).

52. \**Hydrobius fuscipes* (Linnaeus, 1758). Miskhor, Krim, II.06, W. Pliginski, 1 spec.; Yalta, 5.VIII.1915, Kiritschenko, [in Russian], 1 spec.; Krim, Kertsch, 22.III.01, 1 spec. (all in ZISP).

53. *Hydrochara caraboides* (Linnaeus, 1758): [Smetana, 1980]; Kersch, 23.VI.03, 3 spec. (ZISP).

54. *Hydrochara dichroma* (Fairmaire, 1892): [Smetana, 1980; Shatrovskiy, 1986], [as *Hydrophilus sartuss* Semenov: Zaytsev, 1908]. Tauria, 2 spec.; Krym, Evpatoria, 3.VI.07, O.G. and K. Christoforovy, 1 spec.; Selo Saki, Evpatoria, 24.7.12, V. Pliginski [in Russian], 1 spec.; Krim, Kertch, 23.6.02, 1 spec. (all in ZISP).

55. *Hydrochara flavipes* (Steven, 1808): [Zaytsev, 1908; Smetana, 1980; Shatrovskiy, 1986]. Krym, Evpatoria, pustosh', 2.07.1997, leg. I. A. Solodovnikov [in Russian], 1 spec. (cIS); Evpatoria, VI–VII.98, Birulya [in Russian], 1 spec.; Simferopol', Tavrich. gub., [in Russian], 1 spec.; Sebastopol, Krim, 7.4.11 V. Pliginski, 2spec.; Sebastopol, Krim, V. Pliginski, 1 spec. (all in ZISP).

56. *Hydrochara semenovi* (Zaytsev, 1909): [Smetana, 1980; Shatrovskiy, 1986; Kirejshuk & Shatrovskiy, 2001b]. TYPE MATERIAL. Lectotype: Krim, Angarskiy perev., Yaltinskiy u. Luzha u shosse, 25.06.07, W. Pliginskiy [in Russian] (ZISP).

REMARK. In ZISP's collection there are also 2 specimens with the same data as lectotype. They have labels only with the words "lectotype" and "syntype" without additional data. These labels are most obvious by A. Smetana who revised the genera *Hydrochara* [Smetana, 1980] thus in fact these specimens are paralectotypes.

57. *Hydrophilus aterrimus* Eschscholtz, 1822: [as *Hydrophilus ater*: Zaytsev, 1908]. Tauria, 1 spec.; Krim, Kerch, 21.IV.07, Kiritschenko, 1 spec.; Kerch, Tavrich. gub., 18.VII.07 [in Russian], 1 spec. (all in ZISP).

58. *Hydrophilus piceus* (Linnaeus, 1758): [Zaytsev, 1908]. Kostel', Alushta, YU. Krym, 8.VIII.00, [in Russian] 1 spec.; Crimea, Kersch, 1 spec.; Kersch, 20.VII.03, 1 spec.; Kersch, 6.VIII.07, Kiritschenko, 2 spec.; Kerch, Tavrich. gub., 18.VII.07 [in Russian], 1 spec. (all in ZISP).

59. *Laccobius (Compsolaccobius) decorus* Gyllenhal, 1827: [Shatrovskiy, 1984].

60. \**Laccobius (Dimorpholaccobius) bipunctatus* (Fabricius, 1775). Tauria, selo Saki, Evpatoria, Krim, 9.8.11, V. Pliginski [in Russian], 1 spec.; Simferopol, 27.VI.07, Kiritschenko, 1 spec.; Krim, Angarskiy perev., Yaltinskiy u. Luzha u shosse, 25.06.07, W. Pliginskiy [in Russian], 1 spec. (all in ZISP); The Ukraine, the Crimea, near Gurzuf, pond Lapot', 9.07.2000, leg. Ryndovich S.K., 2 spec.; same data, 11.07.2000, 2 spec.; The Crimea, near Krasnokamenka, pond, S = 4800 m<sup>2</sup>, deep — 0.2–0.5 m, 6.07.2000, leg. S.K. Ryndovich, 2 spec. (all in cSR).

61. *Laccobius (Dimorpholaccobius) obscuratus aegaeus* Gentili, 1974: [Hebauer & Ryndovich, 2005], [as *L. obscuratus* Rottenberg: Shatrovskiy, 1984]. The Ukraine, the Crimea, near Gurzuf, streams, 7.07.2000, leg. S.K. Ryndovich, 1 spec.; same data, 10.07.1999, 10 spec.; same data, 11.07.1999, 5 spec.; same data, 14.07.1999, 5 spec.; same data, 3.07.2000, 67 spec.; same data, 13.07.2000, 2 spec.; the Crimea, 0.5 km N Gurzuf, pool, 8.07.1999, leg. S.K. Ryndovich, 1 spec.; 1 km W Gurzuf, pool, 8.07.1999, leg. S.K. Ryndovich, 1 spec.; the Crimea, near Krasnokamenka, stream, 6.07.2000, leg. S.K. Ryndovich, 3 spec.; the Crimea, Gurzuf, "Artek", streams, 11.07.2001, leg. S.K. Ryndovich, 13 spec.; Alushta, river Ulu-Uzen, 9.07.2000, leg. S.K. Ryndovich, 3 spec.; Gurzufskaya Yayla, near Partizanskoe, pool, S = 40 m<sup>2</sup>, 12.07.2000, leg. S.K. Ryndovich, 2 ex.; same data, pools on place of stream, 2

ex.; the Crimea, near Gurzuf, river Avunda, leg. 14.07.2001, S.K. Ryndevich, 12 spec.; the Crimea, near Gurzuf, streams, 4.08.2005, leg. S.K. Ryndevich, 10 spec. (all in cSR).

62. *Laccobius (Dimorpholaccobius) simulatrix* Orchymont, 1942: [Shatrovskiy, 1984] Krym, Krasnye Peshchery, Yayla, 21.08.1991, bereg vysokshego vodoema, glina [in Russian], 1 spec.; Krym, Bakhchisarayskiy r-n, okr. d. Pochtovoe, r. Al'ma, 2.07.1986, Saluk S.V. [in Russian], 3 ex. (all in cSR); r. Al'ma, Krym, Rybakov, [in Russian], 2 spec. (ZISP); Krim, 24.8.07.W. Pliginski, 7 spec.; Tauria, Bia-Sala, 14.6.11. V. Pliginskiy, 1 spec. (all in ZISP).

REMARK. The reference to the finding *L. striatulus* (Fabricius, 1801) [as *L. nigriceps* Thomson: Zaytsev, 1908] concerns *L. simulatrix* [Shatrovskiy, 1984; Kirejtshuk & Shatrovskiy, 2001b], which is also proved by the examination of the specimens from Zaytsev's collection.

63. \**Laccobius (Dimorpholaccobius) syriacus* Guillebeau, 1896. Krym, okr. G. Yalta, Kzyl-Kaya, yu. Sklon, ruchey nizhe pruda Babu-karyto, 12.05.2006, leg. Prokin, [in Russian], 1 spec. (cAP).

64. *Laccobius (Laccobius) minutus* (Linnaeus, 1758). Crimea, Karadag, UVL, 7–8.06.1996, leg. I.A. Solodovnikov, 1 spec. (cIS); The Ukraine, the Crimea, near Krasnokamenka, pond, 5.08.2006, leg. S.K. Ryndevich, 7 spec. (cSR).

65. \**Laccobius (Microlaccobius) alternus* Motschulsky, 1855. The Crimea, Krasnokamenka, stream, 5.08.2006, leg. V.A. Tsinkevich, 1 spec. (cSR).

66. *Laccobius (Microlaccobius) gracilis gracilis* Motschulsky, 1855: [Shatrovskiy, 1984]. Tauria, Bia-Sala, 14.6.11. V. Pliginskiy, 1 spec. (ZISP); Krim, 19.8.08.W. Pliginskiy, 1 spec. (ZISP).

67. *Megasternum concinnum* (Marsham, 1802). [Hebauer & Ryndevich, 2005]. Tauria, 2 spec.; Tauria, k. V. Yakovleva [in Russian], 3 spec.; Alma, zapad. ber. Kryma, 26.V.1899, A. Bazhenov [in Russian], 1 spec.; Sebastopol, Krim, Inkerman, 8.2.10, V. Pliginskiy, 1 spec.; same data, 20.11.10, 1 spec.; same data, 26.3.11, 1 spec. (all in ZISP); The Ukraine, the Crimea, near Gurzuf, horse dung, 5.07.2000, leg. S.K. Ryndevich, 2 spec. (cSR).

68. *Paracymus aeneus* (Germar, 1824): [Hebauer & Ryndevich, 2005]. Crimea, Evpatoriya, coast of lake Sasyk, 1.07.1997, leg. I.A. Solodovnikov, 1 spec. (cIS); Crimea, near Evpatoriya, coast of lake Maynaki, 3.07.1997, leg. I.A. Solodovnikov, 1 spec. (cSR); The Ukraine, the Crimea, 13 km NE Kerch', v. Osovino, decomposing seaweed, 7.08.1998, leg. Lukashuk A.O. 1 spec. (cSR).

69. *Sphaeridium bipustulatum* Fabricius, 1781: [Zaytsev, 1908; Ryndevich, 2001b]. The Ukraine, the Crimea, near Gurzuf, in horse dung, 10.07.2000, 6 spec., same data, 11.07.2000, leg. Ryndevich S.K., 2 spec.; The Ukraine, the Crimea, near Alushta, 9.07.2000, leg. Ryndevich S.K., 10 spec. (all in cSR).

70. \**Sphaeridium lunatum* Fabricius, 1792. Krim, Tsce-tirdag, 27–28.IV.07, Kirschenko, 2 spec. (ZISP).

71. *Sphaeridium marginatum* Fabricius, 1787: [Shatrovskiy, 1993a; Ryndevich, 2001b]. The Ukraine, the Crimea, near Gurzuf, in horse dung, 10.07.2000, leg. Ryndevich S.K., 18 spec.; same data, 11.07.2000, 1 spec.; same data 10.07.2000, leg. Tsinkevich V.A., 2 spec. (all in cSR).

72. *Sphaeridium substriatum* Faldermann, 1838: [Ryndevich, 2001b]. The Ukraine, the Crimea, near Kerch, v. Osovino, 1.08.1998, leg. Lukashuk A.O., 8 spec. (cSR); same data 2.08.1998, 52 spec. (cSR); same data 3.08.1998, 38 spec. (cSR); 4.08.1998, 68 spec. (cSR); The Ukraine, the Crimea, near Gurzuf, in horse dung, 12.07.1999, 4 spec., 10.07.2000, leg. Ryndevich S.K., 1 spec. (cSR).

73. *Sphaeridium scarabaeoides* (Linnaeus, 1758): [Zaytsev, 1908; Ryndevich, 2001b]. Tauria, k. Siversa, 3 spec.; Okr. Simferopolya, Krym, Graftio, VII, VIII, 98, [in Russian], 3 spec.; Simferop, 27.IV.99, [in Russian], 7 spec.; Simferopol', 28.4.07, O.G. and K. Khristoforovy [in Russian], 1 spec.; Chetyrdag, Krim, 4.VI.06, Pliginski, k. Kirichenko [in Russian], 7 spec.; Krym, Akchakrak, A.M. D'yakonov, 5.7.1914 [in Russian], 2 spec.; Krim, Tscetirdag, 27–28.IV.07, Kirschenko, 2 spec.; Krim, Angarskiy perev., Yaltinskiy u. 5.VI.07, W. Pliginskiy [in Russian], 1 spec. (all in ZISP); The Ukraine, the Crimea, near Kerch, v. Osovino, 1.08.1998, leg. Lukashuk A.O., 1 spec.; same data 2.08.1998, 2 spec.; same data 4.08.1998, 3 spec.; The Ukraine, the Crimea, near Gurzuf, in horse dung, 10.07.2000, leg. Ryndevich S.K., 24 spec.; 10.07.2000, leg. Tsinkevich V.A., 2 spec. (all in cSR).

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